

perpendicularly, in a more oblique direction from the soil, and turned away from the slope, as if they strove to rest on the steep surface of the rock at a right angle; they became more and more bent, stood thicker and more compact, and were at the same time covered over with thick layers of mosses from the very roots up to the extremities of their stems. Such a ragged moss-covered forest presents indeed a very peculiar aspect.

[To be continued.]

## PROCEEDINGS OF LEARNED SOCIETIES.

### ZOOLOGICAL SOCIETY.

Jan. 13, 1846.—William Yarrell, Esq., Vice-President, in the Chair.

Mr. Gould described a new species of *Nyctibius*, which he proposed to name

*NYCTIBIUS BRACTEATUS.* *Nyct. castaneo-fuscus; scapularum apicibus, et abdomine, maculis albis, quasi bracteis, ornatis.*

The general plumage rich chestnut-brown; the feathers of the head, back and breast freckled with black, and with an irregular-shaped blotch of black at the extremity of each feather; near the tip of each of the scapularies a spot of white encircled with black; on the lower part of the abdomen are two lunar-shaped marks of white, formed by a square spot of silvery white, bounded above and below with a narrow line of black, occupying the extremities of the feathers; wings dark brown, with the exception of the outer margins of the primaries, which are cinnamon-brown; tail chestnut, crossed with numerous bars, composed of two irregular narrow lines of black, and with a small spot of white at the tip; under tail-coverts buff, with a square spot of white at the tip.

Total length,  $9\frac{1}{2}$  inches; bill,  $1\frac{1}{4}$ ; wing, 6; tail,  $5\frac{1}{2}$ ; tarsi,  $\frac{1}{2}$ .

*Hab.* Santa Fé de Bogota.

*Remark.*—This species is the least of the genus that has come under my notice; the description is taken from a fine specimen in the collection of the Royal Institution of Liverpool.

January 27.—William Yarrell, Esq., Vice-President, in the Chair.

A paper by Professor Owen was read, containing the following notes on the dissection of the Chimpanzee (*Troglodytes niger*) which died in the menagerie of the Society Dec. 29, 1845:—

Chimpanzee (female):—Weight  $42\frac{1}{2}$  lbs.

	MEASUREMENTS.	
	ft.	in.
From vertex to under-side of heel . . . . .	3	6
From vertex to coccyx . . . . .	2	0
From trochanter major femoris to external condyle of femur . . . . .	0	$9\frac{1}{2}$
From external condyle of femur to external malleolus . .	0	$9\frac{1}{4}$
From heel to end of middle toe . . . . .	0	$8\frac{3}{4}$
From distal end of first metatarsal to distal end of phalanges of first toe . . . . .	0	$2\frac{1}{2}$

	ft.	in.
From acromion to external condyle of humerus . . . . .	0	9 $\frac{1}{2}$
From external condyle of humerus to distal end of radius	0	10
From distal end of radius to extremity of middle finger ..	0	10
Circumference of proximal part of arm . . . . .	0	8
Circumference of proximal part of fore-arm . . . . .	0	8 $\frac{1}{8}$
Circumference of distal part of fore-arm . . . . .	0	6 $\frac{1}{8}$
Circumference of wrist . . . . .	0	6
Circumference of proximal part of thigh . . . . .	0	11
Circumference of distal part of thigh . . . . .	0	9 $\frac{1}{4}$
Circumference of proximal part of leg . . . . .	0	7
Circumference of distal part of leg . . . . .	0	6 $\frac{1}{4}$
Circumference of metatarsus . . . . .	0	7
Weight of brain (covered by arachnoid and pia mater),	13 oz.	4 dr.
Weight of liver,	2 lbs.	
Weight of spleen,	2 $\frac{1}{2}$ oz.	
Weight of kidneys,	3 oz.	each.

All the deciduous teeth were shed, and all the permanent teeth (on the right or healthy side of the mouth) were in place, except the canines and last molars; these latter teeth were more advanced in their development than the canines. This stage of dentition corresponds with that of the human subject at about the twelfth year; but allowance must be made for the later period of development of the canines in the Chimpanzee. Both upper and lower jaws on the left side were enlarged by disease; the gums inflamed and sloughy; the bicuspides or premolars and the first and second true molars had been pushed out, and their fangs more or less absorbed. The left outer permanent incisor of the upper jaw was half an inch distant from the inner or median incisor, owing to intervening swelling of the jaw. A section of the diseased left ramus of the lower jaw showed the matrices of the canine and last molar in a healthy state in the closed alveolar cavities.

The irritation had extended to the left submaxillary and sublingual glands, which were much enlarged. Both tonsils were ulcerated. Both pleuræ, but particularly the left, were partly closed by old adhesions, which had obliterated the divisions of the lobes of the lungs. Only one small portion of the pulmonary tissue was consolidated by inflammation; it was about the size of a walnut, and situated in the lower lobe of the right lung, close to an adhesion of the pleura, but there were no tubercles developed in any part of the lungs.

A few old adhesions bound the spleen and omentum to the walls of the abdomen; all the other viscera of the abdominal cavity were healthy. The most remarkable morbid appearance was found upon the upper surface of the posterior lobe of the right hemisphere of the brain, where a circumscribed depression of two convolutions was formed, to which the dura mater strongly adhered, by the medium of a yellowish firm lymph; but there was no superficial ulceration of the cerebral substance.

With regard to the normal anatomy, I may at present add to the full descriptions that have been published of the dissections of

younger Chimpanzees, that in this nearly adult individual the laryngeal pouch extended over the front of the neck, beneath the platysma myoides, as far down as the left axilla, passing there beneath the upper border of the great pectoral muscle.

The continuation of Mr. Lovell Reeve's paper on new species of *Pleurotoma* was then read:—

**PLEUROTOMA DELICATA.** *Pleur. testá subulatá, tenui, hyaliná, transversim minutè et creberrimè elevato-striatá, aperturá brevi; pellucido-albá, aurantio pallidissimè maculatá.*

*Hab.* Lord Hood's Island, Pacific Ocean; Cuming.

**PLEUROTOMA AXIS.** *Pleur. testá recto-acuminatá, infernè contractá, anfractibus supernè bicarinatis, infra transversim exiliter liratis, aperturá oblongá, sinu profundo, albidá, aurantio-fusco subindistinctè tinctá.*

*Hab.* Philippine Islands; Cuming.

**PLEUROTOMA CREBRIPLICATA.** *Pleur. testá ovatá, infernè ventricoso-sinuatá, anfractibus concentricè crebriplacatis, transversim crebriliratis, aperturá patulá; albidá, aurantio-fusco profusè variegatá.*

*Hab.* Bolinao, Island of Luzon, Philippines (found under stones at low water); Cuming.

**PLEUROTOMA ROSARIA.** *Pleur. testá abbreviato-subulatá, basi truncatá, anfractibus concentricè plicatis, levibus, aperturá brevi, vividè coccineo-rosed, anfractuum parte supremá albizonatá.*

*Hab.* — ?

**PLEUROTOMA DYSONI.** *Pleur. testá ovatá, spirá subturritá, anfractibus supernè concavis et obtusè carinatis, infra rotundatis, longitudinaliter costatis, liris transversis decussatis, aperturá brevi, sinu amplo; castaneo-fusca, anfractuum parte superiori hic illic interruptè albifasciatá.*

*Hab.* Honduras; Dyson.

I have much pleasure in naming this shell, at the request of Mr. Cuming, after Mr. Dyson, whose adventurous researches after objects of natural history in a country not the most healthy for European travellers are certainly worthy of being recorded.

**PLEUROTOMA HONDURASENSIS.** *Pleur. testá oblongo-ovatá, spirá acutá, anfractibus rotundatis, nodoso-costatis; cinereo luteoque alternatim fasciatá; labro incrassato.*

*Hab.* Honduras; Dyson.

**PLEUROTOMA FENESTRATA.** *Pleur. testá fusiformi-ovatá, subinflata, tenui, pellucidá, anfractibus rotundis, liris superficialibus subdistansibus undique clathratis, labro simplici, sinu latiusculo; pellucido-albá, aurantio pallidè tinctá.*

*Hab.* Island of Mindoro, Philippines (found among coral).

**PLEUROTOMA GRANICOSTATA.** *Pleur. testá abbreviato-ovatá, basi truncatá, spirá brevi, anfractibus pulcherrimè granoso-costatis,*



*liris transversis clathratis; albidd, roseo-fuscescente tinctd, granis saturatoribus.*

*Hab.* — ?

PLEUROTOMA REGULARIS. *Pleur. testd subpyramidali-ovatd, anfractibus supernè concavis, medio obliquè regulariter costatis, aperturá parvd, sinu lato; albidd.*

*Hab.* — ?

PLEUROTOMA ANGICOSTATA. *Pleur. testd oblongo-ovatd, spirá turritd, lævigatd, anfractibus longitudinaliter costatis, costis subdistantibus, angustis, supernè angulatis, submucronatis; nived.*

*Hab.* — ?

PLEUROTOMA MUCRONATA. *Pleur. testd acuminato-pyramidali, anfractibus longitudinaliter subobscure plicato-costatis, costis nodulosis, aperturá brevi; fuscá, nodorum serie medianá albicante.*

*Hab.* — ?

PLEUROTOMA CAGAYANENSIS. *Pleur. testd fusiformi-ovatd, spirá acuminatd, anfractibus supernè unicarinatis, infra tuberculato-plicatis, transversim conspicuè liratis; sinu amplo; albd.*

*Hab.* Cagayan, province of Misamis, island of Mindanao, Philippines (found in sandy mud at the depth of seven fathoms); Cuming.

PLEUROTOMA TESSELLATA. *Pleur. testd pyramidali, anfractibus supernè concavis, medio confertim tuberculato-plicatis, aperturá parvd; albd, maculis grandibus conspicuis rufo-fuscis tessellatd.*

*Hab.* Isle of Capul, Philippines (on the reefs); Cuming.

PLEUROTOMA SEMEN. *Pleur. testd oblongd, spirá mucronatd, anfractibus lævibus, medio obliquè plicatis, aperturá parvd, sinu profundo; castaneo-fuscá, plicis albidis.*

*Hab.* San Nicolas, island of Zebu, Philippines (under stones at low water); Cuming.

PLEUROTOMA PARIA. *Pleur. testd oblongd, spirá acuminato-turritd, anfractibus supernè concavis, infra plicato-costatis, costis angustis, subflexuosis; albd, fasciá pallidè aurantiá indistinctá cingulatd.*

*Hab.* — ?

PLEUROTOMA SCALPTA. *Pleur. testd pyramidali-ovatd, lævigatd aut minutissimè reticulatd, aperturá brevi, sinu distincto; albd, lineis fuscis brevibus tessellatim pictd.*

*Hab.* — ?

PLEUROTOMA FORBESII. *Pleur. testd turritd, anfractibus rotundatis, longitudinaliter obtusè costatis, transversim liratis, aperturá parvd; rufescente-fuscá, liris saturatoribus.*

*Hab.* Paros, Grecian Archipelago; Forbes.

I have much pleasure in dedicating this little species to Professor Edward Forbes, whose submarine researches among the islands of the Grecian Archipelago have afforded matter of so much interest and novelty.

PLEUROTOMA SYMMETRICA. *Pleur. testd ovatd, spirá breviusculd, anfractibus supernè depressis, longitudinaliter costatis, costarum*

*interstitiis subtilissimè elevato-striatis; lutescente, anfractuum parte superiori albd.*

*Hab.* — ?

PLEUROTOMA CORNEA. *Pleur. testá ovatá, spirá acuminatá, cornéa, subpellucidá, concentricè tenuicostatá; fuscéscente, zóná angustá pallidá cingulatá.*

*Hab.* — ?

PLEUROTOMA FOVEOLATA. *Pleur. testá ovatá, liris fortibus elevatis undique reticulatis, liris ad decussationem granosis; albd.*

*Hab.* — ?

PLEUROTOMA PAGODA. *Pleur. testá pyramidalí-acuminatá, anfractibus longitudinaliter crassicostatis, transversim subtilissimè liratis, aperturá brevi; olivaceo-fuscá.*

*Hab.* — ?

PLEUROTOMA SEMIGRANOSA. *Pleur. testá acuminato-turritá, anfractibus supernè concavis, medio nodoso-costatis, infra granosis, aperturá parvâ; albidd, fasciá aurantiá infernè cingulatá.*

*Hab.* — ?

PLEUROTOMA TINCTA. *Pleur. testá oblongo-ovatá, anfractibus rotundis, longitudinaliter crassicostatis, liris transversis fortiter clathratis, interstitiis profundis, labro incrassato, sinu lato, canali subrecurvo; albd, anfractibus supra et infra aurantio-fusco fasciatim maculatis.*

*Hab.* — ?

PLEUROTOMA CANALICULATA. *Pleur. testá ovato-turritá, spiræ suturá canaliculatá, anfractibus striis elevatis, subtiliter clathratis, sinu amplo; albicante.*

*Hab.* — ?

PLEUROTOMA FUSOIDES. *Pleur. testá fusiformi, spirá acuminatá, anfractibus supernè angulatis, striis elevatis creberrimè reticulatis, labro subincrassato, sinu lato; albicante, intus fuscéscente.*

*Hab.* Island of Mindanao, Philippines (found in sandy mud at the depth of twenty-five fathoms); Cuming.

PLEUROTOMA ALBIFUNICULATA. *Pleur. testá oblongá, anfractibus rotundatis, longitudinaliter crebricostatis, liris subtilibus transversis funiculatis, canali subrecurvo, sinu lato; albicante, aurantio hic illic tinctá, liris opalo-albis, apice rosaceo.*

*Hab.* South Pacific.

PLEUROTOMA ALBINODATA. *Pleur. testá ovato-turritá, medio gibbosá, anfractibus superne angulatis, ad angulum tuberculatis, transversim granoso-liratis; nigricante-fuscá, tuberculis albis.*

*Hab.* — ?

PLEUROTOMA SCARABÆUS. *Pleur. testá obeso-ovatá, spirá brevi, apicc elevato; lævigatá, spirá apicem versus obsoletè hexagonali; castaneo-fuscá, anfractu ultimo zóná subobscurá lutescente cingulatá, apicc albo.*

*Hab.* Honduras; Dyson.

PLEUROTOMA DÆDALA. *Pleur. testâ subfusiformi, anfractibus longitudinaliter tenuicostatis, interstitiis transversim creberrimè elevato-striatis, labro incrassato; albidd, fuscescente pallidissimè tinctâ.*

Hab. — ?

PLEUROTOMA OBTUSA. *Pleur. testâ oblongâ, spirâ breviusculâ, obtusâ, anfractibus rotundis, obtuso-costatis, transversim tenuiliratis, labro incrassato, sinu lato; lutescente.*

Hab. — ?

February 10.—R. C. Griffith, Esq., in the Chair.

The following letter was read, addressed to G. R. Waterhouse, Esq., by the Society's Corresponding Member Thomas Bridges, Esq.:—

“ I am much delighted to learn that several of the little Rodents I sent from Chile previous to my departure proved new, and I thank you sincerely for the honour you have done me by affixing my name to the new Octodon. I now with pleasure give you its habitat. Many years ago I found this species inhabiting holes in sandy banks and hillocks near the borders of the river Jenô, in the province of Colchagua, nor do I remember having found it in any other locality in Chile. It is much less abundant than *O. Cumingii*, but, like that species, it feeds on herbs and dried grass. In the winter months I have observed it eats the bark of *Mimosa Cavenia*, which abounds in that part of Chile. Of this species, on my return to Chile, I shall endeavour to procure other specimens; also a skeleton and cranium for your inspection. Like *O. Cumingii*, it makes its appearance and feeds during the day, especially when the weather is cloudy.

“ The *Lagotis Cuvieri* of Bennett, of which I sent beautiful specimens, were captured on the western side of the Andes, in the province of Colchagua. This animal I have also found in great abundance in Bolivia; you would be delighted to see it in its native country. It abounds in bold, rocky and steep precipices, and sometimes on the slopes amongst large stones tumbled one on the other, amongst the crevices of which it takes shelter. I have never yet seen it make caves or burrows. It is highly amusing to see it bound from one huge block to another, taking leaps equal almost to those of the squirrel; this it accomplishes from the structure of its hind legs and the assistance of its tail. On examining several females lately, I find that they only produce one or two at a birth. Their food is coarse grass. It appears that this animal has an immense mountainous range from lat. 33° to 18°, and probably is found much further north and south. I have found it often from 10,000 to 12,000 feet of elevation in Bolivia. If not mistaken, I have discovered in my rambles from Cobija to this place, a distance of 900 miles, another species of *Lagotis*\*. It is somewhat less in size, more compact, with a shorter tail, and the fur is of a rusty colour, especially that of the flanks and abdomen; nor is the dark line over the vertebra so well-marked as in *L. Cuvieri*. When you possess the skins you will be better able to discover if it is a distinct species.

\* I did not perceive any other species of *Lagotis* beyond the *L. Cuvieri* in Mr Bridges' collection.—G. R. W.



“The Chinchilla I have never been able to capture, although I spent a day or two in Cobija for that purpose. It is entirely a nocturnal animal, never making its appearance during the day, therefore it cannot be taken with the gun: its habits and abode are similar to the Viscacha.

“The native hunters of this little animal domesticate the Quique of Molina, which they term here Huron, the Spanish for ferret\*; the Huron enters the crevices and holes made by the Chinchilla, and drives them out, when they are either killed with sticks by the hunters or taken by the dogs trained for that purpose.

“I find near the coast of Bolivia, where scarcely any vegetation exists, the Chinchilla lives on the seed-vessel of a tall long-spined species of *Cereus*, which it collects in small piles, and eats during the night. These seed-vessels contain a great deal of pulpy substance surrounding the seeds, and the exterior is covered with long hair. They are shaped like a pear, and are called by the natives *Pasas canas* (hairy figs). The *Canis fulvipes* I am persuaded does not exist in the northern provinces of Chile; had this been the case I should have taken it. Molina describes the Culpeo and the Chilla, and as I have not his work here I cannot give you his specific names; why not adopt them, as I consider them prior to those of other authors? On my return to Chile I will consult his work and send you them.

“During my journey in Bolivia I have paid every attention to the Mammalia, and only a few days ago I forwarded a box of skins to Valparaiso, requesting my friend there to forward three species which are highly interesting, and at the same time to me quite new. They are—

“1. *Kerodon*.—This animal I consider different from *K. Kingii*; it is found in the vicinity of Chuquisaca and Cochabamba in rocky places, and not uncommon in fields surrounded by stone walls, in which it takes shelter and lives. It is more solitary than *K. Kingii*, as that species I found near Mendoza in what may be termed large communities. This animal feeds during the day on grass and herbage, but, I have observed, after the dew is evaporated from the ground. The hair of this animal appears, from what I remember, to be more coarse and bristly; however, comparison will decide; I may perhaps be mistaken. Native name, ‘Conejito †.’

“2. A large Rat, with short tail and strong claws ‡. This curious and astonishing animal I first found a few leagues south of Potosi, at an elevation of 12,000 feet, in sandy slopes and valleys, at no great distance from water. Large patches of land are completely undermined by its workings, which are similar to those of *Schizodon fuscus*. I at first concluded that it burrowed for amusement, or the change of residence, but on deeper consideration I consider it does so in pursuit of bulbs and the roots of grass for food, like *Poëphagomys ater*. It may be seen working in the morning, throwing out the

\* This is the *Galictis vittata* of Bell.—G. R. W.

† The species referred to is the *Cavia cobsaia* of authors.—G. R. W.

‡ *Ctenomys braziliensis* of De Blainville.—G. R. W.

sand, and now and then turns round and protrudes its head out of the new-made burrow. It was then our only chance to shoot them, and if not killed on the spot, there is no hope of obtaining them. Only in one or two instances do I remember seeing them leave their holes to feed on the grass. I think you will find this animal distinct from all the other South American Rodents, and perhaps it will form the type of a new genus. Its native name is 'Tufo' and 'Tojo,' pronounced 'Tu-fo' and 'To-ko.'

"3. A large Mouse, with soft fur and large ears\*. This charming little animal we found in the same locality as the above, inhabiting the abandoned caves of the former species. It makes its appearance in the afternoon, when the sun is nearly on the horizon, to feed on grass, and is often seen sitting on its hind legs; and it then presents its pretty white abdomen and erect ears. In this position it has the appearance of a rabbit in miniature. The natives call it 'Achohalla,' pronounced 'Ha-cho-ha-ya.'

"I have taken the *Didelphis Azaræ* with a litter of eight young ones. I have not forwarded this animal with the others; it will remain till my return to Chile; also several species of Mice and Bats.

"In ornithology I have been very successful, having obtained about 100 species differing from the birds of Chile. I have found a considerable portion of the birds figured in D'Orbigny's splendid work, and before I leave Bolivia I hope to obtain the greater part, especially as in a few days I intend leaving Cochabamba and travelling down the river Mamoré towards the frontiers of Brazil, traversing the country of the Yaracares Indians, where D'Orbigny found an immense number of novelties.

"Amongst the *Perdicaræ* I have found a beautiful species of *Endromia*, differing from *E. elegans* of D'Orbigny; also a third species of *Tinachorus*, much larger than *T. D'Orbignyanus*; and in the valley of Cochabamba and mountains in the vicinity I have of late had the good fortune to take three distinct species of *Nocthura*, all of beautifully marked plumage, and different from *N. Perdicaria* of Chile. These have given me excellent sport. Amongst many other interesting birds which I have lately taken, I have found *Serrirostrum carbonarium* and *sittoides*. My intention is, before I leave Cochabamba, to write a communication to the Zoological Society, having now the honour to be a Corresponding Member, giving them a brief idea of what I have accomplished since I arrived in this country. I have no doubt that the Earl of Derby and the Messrs. Gray will have much pleasure at the sight of the Bolivian birds when they arrive in England. I have many interesting insects, amongst which there are three species of *Nyctelia* and two or three of the genus *Phanæus*, with others which I am sure will afford you pleasure and amusement."

HESPEROMYS BOLIVIENSIS. *Hesp. pallidè ochraceus, corpore suprâ fusco-penicillato, subtùs albo; pedibus albis flavo-lavatis; caudâ quoad longitudinem corpus ferè æquante, albâ, suprâ flavâ: auribus permagnis, extùs rufescenti-flavis.*

\* *Hesperomys boliviensis*, a new species hereafter described.—G. R. W.



	unc.	lin.
Longitudo ab apice rostri ad caudæ basin. . . . .	5	3
————— <i>caudæ</i> . . . . .	3	5
————— <i>tarsi digitorumque</i> . . . . .	1	1½
————— <i>auris</i> . . . . .	0	9½

*Hab.* Bolivia, near Potosi.

The most striking features of this species are the large size of its ears, combined with its delicate ochre-yellow colouring. It is apparently a stout-bodied animal, and has long and soft fur, which on all parts of the body is of a deep slate-grey colour next the skin; on the under parts each hair has the outer half white; on the sides of the body the visible portions of the hairs are ochreous, obscurely tinted with rufous on the rump: the hairs on the back are similarly coloured, but they are brown at the point, and many of them are blackish. The feet are white, but slightly suffused with yellowish; the tail is well-clothed for a mouse, white beneath, and of a pale yellow colour above; the eyes are margined with brown; the ears are clothed with small pale yellow hairs internally, and the hairs on the outer surface, which are much longer, are of a rusty yellow hue. The hairs of the moustaches are numerous and very long, some of them white and some black. The incisor teeth, which are narrow in proportion to the animal, are of a very pale orange colour. The fore-feet are small; the tarsi moderate.

The *Hesperomys boliviensis*, in the large size of its ears, must approach the *Mus auritus* of Desmarest; but judging from the description of that animal, it should differ in being of a larger size, in having the tarsi shorter in proportion, and its colouring must be very dissimilar, the *M. auritus* being described as of a grey hue.—G. W.

February 24.—George Gulliver, Esq., F.R.S., in the Chair.

A paper by Edward Fry was read:—

“On the Osteology of the Active Gibbon (*Hylobates agilis*).”

I have never met with any detailed account of the osteology of any species of the genus *Hylobates*. Professor Owen’s memoir on that of the Orang Utan and Chimpanzee seems to make one desirable, for the sake of comparison, as the Gibbons are the next group of *Simiada* to the Orangs. Their skeleton too is highly interesting, as exhibiting a striking adaptation to progression amongst the branches of trees, well-fitting the animal to be a walker amongst woods, a *Hylobates*.

The individual, whose skeleton I am about to describe, was a female, which lived for some years in the Zoological Gardens at Bristol, having been brought thither from Macao, where she had been kept in confinement. Of two young ones which were taken with their mother in the forests of Malacca, she alone attained maturity. She was probably nine or ten years of age at the time of her death. Of her agility and her cry I shall say nothing; much has already been written on these subjects, and no account of mine could give any adequate impression of her wonderful manners.

This individual is the one which was exhibited in London in 1840,

and of which mention is made in Martin's 'Natural History of Quadrapeds,' Part 8.

Section I.—OF THE SKULL.

The cranium of the *Hylobates agilis* is elongate and ovate in form, much-contracted behind the orbits, which are very projecting and deep and surmounted by very elevated supraciliary ridges. The muzzle is rounded and broad, so that the face, although considerably prominent, has not attained the lengthened shape of the Baboons or of the adult Orang Utan. The forehead, which is narrow, is but slightly arched above the orbits, so that the whole of the cranium is behind the face.

A slightly elevated ridge of bone, arising from the supraorbital ridges, which becomes contracted during its passage over the coronal aspect of the skull, and again expands towards the occiput, marks the boundary on either side of the temporal muscles. This elevated medial portion is smooth, whilst the lateral portions of the skull are roughened by muscular attachments. This development is similar to that of the Chimpanzee, whilst in the Orang Utan the sagittal and temporal crests are elevated to an extraordinary extent.

The supraorbital ridges, we have before remarked, are much-developed. Such is the case in the Chimpanzee, where however they form a junction across the face, which does not take place in the Active Gibbon. The orbits have a very prominent margin, are very large and deep, and are much swelled out externally, so that their outer portion "projects very boldly from the cranium." Sir Thomas Stamford Raffles says of the Siamang, "The orbits of the eyes are circular and remarkably prominent," Linn. Trans. vol. xiii. p. 242. Such too is the character of the skull of the adult Hoolock figured by Dr. Harlan in the Transactions of the American Philosophical Society, vol. iv. New Series, p. 52.

The nasal bones make a slight elevation, thus resembling Man more than the Orang Utan or even the Chimpanzee. The osseous opening of the nose is wide and rather large. The figure of the face viewed in front, from between the orbits to the dental edge, resembles a wedge whose point is directed downwards. This form is contrary to that of the Baboons, where the wedge is inverted. The infraorbital canal opens by a single hole, as in Man and the Chimpanzee. This foramen is smaller in the Gibbon than in those animals.

The outward curvature of the zygomatic arch is not great; it is placed far more posteriorly than in Man, in consequence of the lengthening of the facial portion of the skull.

The skull of this Gibbon is ankylosed, externally at least, into one piece. Prof. Owen tells us that the cranial sutures are obliterated in the adult Orang Utan, Syndactylous Ape, and frequently in the Baboons and other Quadrumana. I have observed it in *Pithecia Satanus*, an American species. It sometimes occurs in the adult human cranium.

The lower jaw is rather lengthened in figure, decidedly more so than in Man, in consequence of the production of the muzzle. It is shallowest just below the termination of the molar series, deepening towards the symphysis, which is not very retreating, so that the



Gibbon has a pretty good chin for a monkey. In this respect it appears to approach Man more nearly than the higher Orangs. The lower jaw of Man is more uniform in its depth than that of this Gibbon: its angle too is not quite so much rounded; the external edges of the ascending and horizontal branches do not form quite so obtuse an angle at their meeting.

The question may be asked, What are the effects of age in altering the form of the skull in the Gibbons? In answer I will remark, first, that the muzzle is elongated and the cranium thrown in a more backward position, in consequence of the necessity for lengthening the dental edge to receive the second or permanent series of teeth. This will be evident by a comparison of the skulls of the young White-cheeked and Hoolock Gibbons, figured in Martin's Nat. Hist. Quad., Part 8, with that of the adult Agile Gibbon in the Bristol Institution (the subject of this paper) and with Dr. Harlan's plate of that of the adult Hoolock, Trans. Amer. Phil. Soc., *ubi supra*. The latter comparison is very satisfactory on this point, as the specimens compared are of the same species. A corresponding elongation of the facial parts takes place in the Orangs, as demonstrated by Prof. Owen, Zool. Trans. vol. i. or Zool. Proc. 1835, p. 30. A similar change is also observable in the human species; the facial angle of the infant decreases with age until the second teeth are cut. Secondly, with increasing age another change takes place in the greater prominence of the supraciliary ridges and the margin of the orbit. I appeal again to the illustrations of Martin and Harlan, and to the original sketch of the Agile Gibbon. A similar development of the cranial ridges takes place in the Orang Utan and Chimpanzee with age; in the former, in the temporal and sagittal crests; in the latter, in the orbital margin. Thirdly, in the ankylosis of the bones of the cranium and the face. This would appear to have taken place in the skull of the Hoolock figured by the late Dr. Richard Harlan (*ubi supra*), whilst in the immature one figured by Martin (*ubi supra*) the sutures are represented. This change is observed to take place in the adult Orang, but not in the Chimpanzee. Fourthly, it appears probable, from a comparison of the before-mentioned materials, that the infra-orbital foramen, and the foramen which gives exit to the dental blood-vessel and nerve in the lower jaw, become smaller by age.

From these observations it will be apparent that the skull of the Gibbons, like that of the Orangs, is far more anthropoid in youth than in mature age. The prolongation of the muzzle, the retrogression of the cranium, the smallness of the facial angle, the development of the orbital ridges, the ankylosis of the bones, and the smallness of the foramina, all distance the aged more than the immature Gibbon from the human race.

Compared with the human skull, the head of this Gibbon is distinguished by its lengthened ovate figure; its narrowness, especially behind the orbits; by the large size and inflated parietes of the orbits; by the want of vertical elevation of the forehead, and the consequent position of the brain behind, not above the face; by the great elevation of the supraorbital ridges; by the development of the muzzle, necessitating the backward position of the zygomatic arches and the

elongation of the palate; by the small proportional size of the infra-orbital foramen; by the obliquity of the occipital plane, and by the large size of the canine teeth; by the elongation of the lower jaws, in consequence of the length of the muzzle and palate; by the increased depth of the symphysis, and by the small size of the foramen which gives exit to the blood-vessel nourishing the teeth and the accompanying nerve.

This skull agrees with that of the Chimpanzee in its smallness proportionally to the body, in its generally elongated form, in its anterior contraction, in the marks of the attachments of the temporal muscles, in the large supraorbital ridges, in the obliquity of the plane of the foramen magnum, and in the slight arch of the nasal bones.

It differs from that of the Chimpanzee in the supraorbital ridges not uniting, in the obliteration of the sutures, in the smaller size of the infraorbital foramen and of the foramen of the dental blood-vessel. The lower jaw is proportionally shallower. The cranium of the young Chimpanzee is far broader, more arched and less anteriorly compressed, and therefore far more anthropoid. These characters however degenerate with age.

It differs yet more from the form of skull exhibited by the adult Orang Utan, where the strongly developed cranial ridges and widely expanded zygomatic arches give the skull a carnivorous aspect. These peculiarities we have seen to be absent in the Gibbon. The flatness of the bones of the nose of this Ape is an additional distinction. On the other hand, it agrees with the Orang in the obliteration of the cranial sutures of the adult.

In the large development of the supraciliary ridges this skull reminds us of the Baboons, which present however a more degraded form, and may be distinguished by the greater narrowness of the cranium, by the less circular form of the orbits, by the greater prolongation of the muzzle and the greater space between the zygomatic arch and the skull.

The dentition of the Gibbon claims no especial notice; the incisors and molars are moderate in size, whilst the canines are large, their roots apparently reaching nearly to the internal corner of the orbits.

Section II.—OF THE TRUNK.

The vertebral formula of the Agile Gibbon is—cervical, 7; dorsal, 13; lumbar, 5; sacral, 4; coccygeal, 4. The comparison of these numbers with those of some of its congeners and near allies will be exhibited by the following table:—

Name of Animal.	Cervical.	Dorsal.	Lumbar.	Sacral.	Coccygeal.	Total.
Man .....	7	12	5	5	4	33
Chimpanzee .....	7	13	4	5	4	33
Orang Utan .....	7	12	4	5	3	31
<i>Hylobates concolor</i> .	7	14	5	5	5	36
<i>Hylobates lar</i> .....	7	12	6	3	3	31
<i>Hylobates agilis</i> ...	7	13	5	4	4	33

Of the cervical vertebræ I need only remark, that the transverse



processes of the atlas are produced long and narrow, more so than in Man. The first dorsal vertebra is the smallest, after which they gradually increase in size. The transverse processes of the lumbar vertebræ are less developed than in Man, and are more uniform in size. It will be noticed that whilst the lumbar vertebræ of the Chimpanzee and Orang Utan are four, two of the Gibbons have five and one has six; in the extent of this region therefore they approach Man. The sacral vertebræ are perfectly anchylosed together, but not to the coccygeal, and form about their middle an angle, the lower part being curved backwards. The upper portion thus remains in a line with the vertebral column, and part only is thrown backwards instead of the whole, as in Man. The first pair of foramina are almost obliterated, and are therefore not so large as in Man and the Chimpanzee; the three following are persistent. As in the Orangs, the sacrum is narrower than in the human skeleton. The weakness of these parts indicates the less amount of capability of assuming the erect posture than is granted to Man. The Gibbons are especially fitted for arboreal progression; and although by the assistance of their lengthened fore extremities, touching the ground on either side, and as it were acting as crutches, they are perhaps more at home in the erect posture on level surfaces than either the Chimpanzee or Orang Utan, yet their movements are awkward and constrained. The Gibbons are the only Mammals which can assume the erect posture whilst they walk on all four extremities.

The thorax, which is formed by seven true and six false ribs, is larger and more conical in form than in Man. The great activity of the Gibbons requires large respiratory organs; hence we find the thorax proportionally large (see Prof. Owen on Orangs, *ubi supra*); at the same time it affords increased attachments to the strong pectoral muscles required by the lengthened arms. One contrivance thus answers two ends.

The last three ribs are unattached by cartilage to the sternum, which consists of five pieces, whereof the last is free. In the number of its component pieces the sternum of the Active Gibbon agrees with Man and the Chimpanzee, and differs from the Orang Utan, where it is formed of seven or eight small pieces arranged in a double row. The manubrium differs slightly from the human in being proportionally broader.

Compared with the ribs of the Chimpanzee, those of the Active Gibbon are slight in form; compared with those of a Baboon, they are strong.

A reference to the dorsal column of the table of vertebræ given above will show that the number of ribs varies considerably in the genus *Hylobates*.

### Section III.—OF THE FORE EXTREMITIES.

The clavicles, which from their great length throw the scapulæ far backwards, and give great breadth to the shoulders, are flattened horizontally, have but little marks of tendinous attachment, and present neither the double curvature of Man nor the straightness of the Orang Utan, but a simple gentle curvature outwards.

The scapulæ are of a more lengthened shape than in the human subject, from which they also differ in having the aspect of the glenoid cavity far less laterally and more upwardly directed, in the upper edge of the bone rather descending than ascending from this cavity, in the convexity instead of concavity of the humeral edge, and the far greater acuteness of the inferior angle.

The peculiarities to be remarked in the humerus are its extraordinary length, reaching to just above the head of the femur, its slightness of form, and the general weakness of its elevations. The tubercles at the superior head are very small. Its twist occurs about one-third from the upper extremity of the bone, as in Man. The external apophysis can scarcely be said to exist; the internal is present.

The fore-arm is remarkable for its length (which is yet more extraordinary than that of the arm), for the slenderness of its form, and for the extent of the interosseous space formed by the great outward curvature of the radius: by this last character the Gibbon is distanced from Man, but approximated to the Orangs. The greatest distance of the radius from the ulna occurs about one-third of the length of the fore-arm from the superior articulation; not near the inferior head, as in the human skeleton. The olecranon of the ulna appears neither so broad nor so strong as in Man.

In this specimen the fore-arm is two inches longer than the arm. In the adult Hoolock the difference is about  $1\frac{1}{2}$  inch; in the *Hylobates concolor* about  $2\frac{1}{2}$  inches. These proportions correspond with those of the Orangs, but are at variance with the human, where the arm is about two inches longer than the fore-arm. Now it is remarkable that in the immature Gibbons the proportion of these parts has been found to resemble the human (see Dr. Harlan, *ubi supra*). Not only then are the skulls of these monkeys more anthropoid in youth than maturity, but likewise the proportions of the anterior extremities. Retrogression with advancing age from a superior to an inferior type of organization is not so common in nature as the converse.

The carpus of the Agile Gibbon appears to contain the same eight bones as in Man; not eleven, as Daubenton states that the *Hylobates lar* possesses (Martin, *ubi supra*). The whole hand is remarkable for its slenderness and length, by which it is beautifully adapted for grasping the boughs of trees or any such objects: the fingers maintain similar proportions, one to another, to those of Man. The thumb, longer than in the Chimpanzee, where it does not quite equal in length the metacarpal bone of the first finger, is slender in form.

So extraordinary is the length of the fore extremity, that the humerus reaches to nearly the same part of the trunk as the wrist in Man, and that the fingers really rest on the ground when the animal assumes the erect posture. The length of the fore-arm of this skeleton, whose total height is only about two feet, positively exceeds in length that of the adult human subject, being eleven inches long.

Never have I seen a skeleton which better illustrates the law of animal mechanics, that rapidity of movement depends on the elon-



gation of the short arm of the lever (which every bone represents) in proportion to the long arm of the same ; or (otherwise expressed) on the extent of the distance between the fulcrum and weight in proportion to the distance between the fulcrum and the power.

As respects the proportions of the fore-limbs, the Orang Utan approaches the Gibbons, and retrogresses from Man more than the Chimpanzee, since in the former the arms reach to the heel, in the latter to about the knee-joint.

#### Section IV.—OF THE HIND EXTREMITIES.

The pelvis presents us with a type far degraded from the Bimanous. The hips are narrow ; the iliac bones long and flat, and their superior margins do not present an arc of a circle, as in Man, and indeed to a certain extent in the Chimpanzee. The ischiatic bones, instead of retreating far backward from the symphysis of the pubes, are nearly on a plane with the iliac wings ; their inferior margins are not circular, as in Man, but present three sides of a lengthened parallelogram. The symphysis of the pubic bones resembles that of Man more than does that of the young Chimpanzee.

The bones of the lower extremities are characterized, as those of the pectoral limbs, by the slenderness of their form and the slightness of their elevations.

The trochanters of the femur are small ; the *linea aspera* absent. The ligamentum teres appears to have been present, thus agreeing with Man and all the *Simiadae*, excepting the Orang Utan.

The tibia and fibula have rather a larger interosseous space than in Man, consequent on the bowing of the fibula. This space is large in the Orang Utan (Owen, *ubi supra*).

The relative proportions of the leg and fore-leg are similar to the human.

Let me here introduce a remark made on this animal by Yarrell, viz. that both the upper and lower extremities are incapable of the same extension as in Man, owing to the strong facial expansion of the flexor tendons passing before the elbows and behind the knee-joints to be attached to the upper halves of their respective bones below these parts (Notes on Dissection of Active Gibbon, Zoological Journal, vol. v. p. 14).

The foot is remarkable for the smallness of the os calcis, a character common to the Orangs and the lower Monkeys, and which, giving less basal surface to the foot, indicates less power of supporting the frame in the erect posture. The hind-foot is formed for grasping the branches of trees and not for walking on the ground. The metatarsal bones decrease in strength (as in the hand) from the first towards the little finger. The thumb is strongly formed, especially its metatarsal bone. The ungueal phalanges are wanting in the second and third finger, and the ungueal and penultimate in the little finger of the only hind extremity mounted on the skeleton. These defects in the hind-foot arise from the animal having been affected some time previous to her death with a morbid state of constitution (supposed to arise from confinement), which caused her to gnaw off

the ends of some of her fingers. The foot is thrown less on the external edge than in the lower *Quadrumana*.

I am fully conscious of the imperfection of this account of the osteology of the Active Gibbon, yet trust that I have called attention to some points in which the organization of the skeleton is beautifully adapted to the habits of the creature. No part of the studies of a naturalist is more interesting or instructive than thus to trace, however imperfectly, the hand of an all-wise Creator in the works of nature.

EDW. FRY.

The next paper contained "Descriptions of eleven new species of Australian Birds," by John Gould, Esq. :—

*ATHENE MARMORATA.* *Ath. omni superiore corpore, alis, caudæque, saturatè fuscis, nuchâ autem, alarum tectricibus, et scapularibus, obscurè albo maculatis; pogoniis internis primariorum ad basin et rectricum lateraliū fasciis stramineis, ad extremam pogoniam albicantibus, ornatis; facie et mento albidis; corpore inferiore saturatè fusco, albo et arenaceo colore maculato.*

All the upper surface, wings and tail dark brown, obscurely spotted with white round the back of the neck, on the wing-coverts and scapularies; inner webs of the primaries at their base, and the inner webs of the lateral tail-feathers crossed by bands, which are buff next the shaft and white towards the extremity of the webs; face and chin whitish; under surface dark brown, blotched with white and sandy brown; legs and thighs fawn-colour; bill horn-colour; feet yellow.

Total length, 14 inches; bill,  $1\frac{1}{8}$ ; wing,  $9\frac{1}{2}$ ; tail, 6; tarsi, 2.

*Hab.* South Australia.

*Remark.*—Nearly allied to *Athene maculata*, but much exceeding that species in size.

*ATHENE RUFÆ.* *Ath. disco faciali saturatè fusco; omni corpore, suprâ saturatè fusco, infrâ arenaceo-rufo, multis autem lineis rufo-fuscis transversim fasciato.*

Facial disc dark brown; all the upper surface dark brown, crossed by numerous narrow bars of reddish brown, the tints becoming paler and the barrings larger and more distinct on the lower part of the body, wings and tail; all the under surface sandy red, crossed by numerous bars of reddish brown; the feathers of the throat with a line of brown down the centre; vent, legs and thighs of a paler tint, with the bars more numerous, but not so decided; bill horn-colour; toes yellowish, slightly clothed with feathers.

Total length, 20 inches; bill,  $1\frac{3}{4}$ ; wing,  $13\frac{1}{2}$ ; tail,  $9\frac{1}{2}$ ; tarsi,  $2\frac{1}{4}$ .

*Hab.* Port Essington.

*Remark.*—A very powerful species, nearly allied to *Athene strenua*.

*ALCYONE PULCHRA.* *Alc. omni corpore superiore splendidè purpurascente-cyaneo; alis fusco-nigris; loris, cristulâ post aurem, et guld, stramineis; lateribus pectoris purpurascente-cyaneis, in vini colorem ad latera mergentibus.*

All the upper surface shining purplish blue; wings brownish black; lores, tuft behind the ear and throat buff; under surface deep fer-



ruginous orange; sides of the chest fine purplish blue, passing into a rich vinous tint on the flanks; irides and bill black; feet orange.

Total length, 6 inches; bill, 2; wing,  $2\frac{7}{8}$ ; tail,  $1\frac{1}{2}$ ; tarsi,  $\frac{3}{8}$ .

*Hab.* Port Essington.

*Remark.*—This is by far the finest of the Australian Alcyones, and is at once distinguished by the rich blue of the upper surface and the beautiful vinous colouring of the flanks.

*ALCYONE DIEMENENSIS.* *Alc. omni superiore corpore intensè cyaneo, ad uropygium et tectrices caudæ superiores splendidius; alis nigris cyaneo lavatis; guld stramineâ; vertice nigro indistinctè fasciato.*

All the upper surface deep blue, becoming more vivid on the rump and upper tail-coverts; wings black, washed with blue; throat buff; under surface of the body and wings ferruginous orange; on each side of the chest a patch of bluish black; lores and a small patch behind the ears buff; crown of the head indistinctly barred with black; irides and bill black; feet orange.

Total length,  $6\frac{1}{2}$  inches; bill, 2; wing,  $3\frac{1}{8}$ ; tail,  $1\frac{3}{4}$ ; tarsi,  $\frac{1}{2}$ .

*Hab.* Van Diemen's Land.

*Remark.*—Rather more robust than *Alcyone azurea* or *A. pulchra*, and differing from both in the blue of the upper surface, which is less brilliant and of a slight greenish tinge.

*EÖPSALTRIA LEUCOGASTER.* *Eöps. parvo maculo triangulari ante oculum nigro; vertice, corpore superiore, alis caudæque, saturatè griseis; corpore inferiore albo.*

Immediately before the eye a small triangular-shaped spot of black; above the eye a faint line of greyish white; crown of the head, all the upper surface, wings and tail dark slate-grey; the lateral tail-feathers largely tipped with white on their inner webs; all the under surface white; irides dark brown; bill and feet black.

Total length,  $5\frac{3}{4}$  inches; bill,  $\frac{11}{16}$ ; wing, 3; tail,  $2\frac{3}{4}$ ; tarsi,  $\frac{7}{8}$ .

*Hab.* Western Australia.

The sexes are alike in plumage.

*STREPERA ARGUTA.* *Strep. toto corpore nigro; remigum apicibus fuscis; crisso, et pogoniis internis primariorum secundariorumque ad basin et tertiæ partis apicalis reatricum albis.*

All the plumage black, becoming browner on the tips of the wing-feathers; base of the inner webs of the primaries and secondaries, the under tail-coverts and the apical third of the inner webs of the tail-feathers white; irides yellow; bill and feet black.

Total length, 21 inches; bill, 2; wing,  $11\frac{3}{4}$ ; tail, 10; tarsi,  $2\frac{3}{4}$ .

*Hab.* Van Diemen's Land.

*Remark.*—This is the largest species of the genus I have yet seen.

*STREPERA PLUMBEA.* *Strep. corpore superiore plumbeo-griseo, ad frontem loresque multo saturatius; alis nigris; secundariorum marginibus griseis, apicibus, et crisso, albis.*

All the upper surface leaden-grey, becoming much darker on the forehead and lores; wings black; secondaries margined with grey and tipped with white; basal half of the inner webs of the primaries white, of the outer webs grey; the remainder of their length

black, slightly tipped with white; tail black, margined with grey and largely tipped with white; all the under surface greyish-brown; under tail-coverts white; irides, bill and feet black.

Total length, 18 inches; bill,  $2\frac{3}{4}$ ; wing,  $11\frac{1}{2}$ ; tail, 9; tarsi,  $2\frac{1}{2}$ .

*Hab.* Western Australia.

STREPERA MELANOPTERA. *Strep. corpore superiore caudaque nigris; corpore inferiore fusco-nigro, abdomine griseo tincto; crisso re-ctricibusque, duabus intermediis exceptis, albis.*

All the upper surface, wings and tail black; under surface brownish-black, tinged with grey on the abdomen; under tail-coverts and tips of all but the two centre tail-feathers white; irides yellow; bill and feet black.

Total length, 19 inches; bill, 2; wing, 11; tail, 9; tarsi,  $2\frac{5}{8}$ .

*Hab.* South Australia.

*Remark.*—Distinguished from all other species by the total absence of any white mark on the wings.

GALLINULA TENEBROSA. *Gal. griseo-nigra; dorso scapularibusque nigris; crisso medio nigro ad latera albo.*

General plumage greyish black, with the exception of the back and scapularies, which are deep brown, and the primaries and tail, which are nearly pure black; under tail-coverts black in the centre and pure white on the sides; frontal plate orange; base of the bill blood-red; tip greenish yellow; above the knee a garter of yellow and scarlet; joints of the legs and feet green; under surface of the legs and feet olive; the sides of the tarsi and frontal plates of the toes yellow; frontal plates of the tarsi yellow; those nearest the knee stained with scarlet; irides olive.

Total length, 15 inches; bill,  $1\frac{1}{4}$ ; wing, 8; tail, 3; tarsi,  $2\frac{1}{2}$ .

*Hab.* South Australia.

*Remark.*—The above is the description of a female; the male is supposed to be larger in size, and to differ in being of a paler hue beneath, and in having the whole of the upper surface brown.

SYLOCHELIDON STRENUUS. *Syl. fronte vertice et nuchâ nitidè nigris; dorso alis caudaque pallidè cinereo-griseis; reliquis plumis albis.*

Forehead, crown and nape deep glossy black; back, wings and tail pale ashy grey, becoming lighter on the tail and deepening into dark grey on the primaries, the shafts of which are white; remainder of the plumage pure white; irides black; bill scarlet, stained with yellow on the sides and tip, and with greenish yellow near the extremity.

Total length,  $20\frac{1}{2}$  inches; bill, 4; wing,  $16\frac{1}{2}$ ; tail,  $6\frac{1}{2}$ ; tarsi, 2.

*Hab.* Southern coasts of Australia.

*Remark.*—The above is the description of the plumage of the breeding season; at other times the head instead of being wholly black is mottled with black and white.

SULA PERSONATA. *Sul. alba; tectricibus alarum majoribus, secundariis, tertialibus, recticibus lateralibus, et recticum intermediarum apicibus, intensè fuscis.*

The whole of the plumage pure white, with the exception of the



greater wing-coverts, primaries, secondaries, tertiaries, the tips of the two central and the whole of the lateral tail-feathers, which are of a rich chocolate-brown; irides yellow; naked skin of the face and chin in dead specimen dull bluish black; legs greenish blue.

Total length, 29 inches; bill, 5; wing,  $16\frac{1}{2}$ ; tail,  $8\frac{1}{2}$ ; tarsi,  $2\frac{1}{2}$ .

*Hab.* North and north-east coasts of Australia.

*Remark.*—A very robust and powerful species.

The following Note on the Spermatozoa of the Polar Bear, by George Gulliver, Esq., F.R.S., was read:—

The question of the true nature of these curious bodies is as interesting as it is obscure. Whether they be independent animalcules or merely free and floating cilia has never been clearly proved.

Professor Valentin\*, indeed, described an amount of organization in the spermatozoa of a Bear, quite sufficient, if confirmed, to prove that they are really distinct beings. Therefore I took an opportunity of obtaining them for examination from the Polar Bear which died this morning in the Society's menagerie. The animal was a very large adult, in good condition; his testes well-developed, containing in the seminal tubes plenty of cells and immature spermatozoa, and an abundance of them perfectly formed in the vas deferens. These were carefully examined. They presented none of the marks of mouth, anus and internal vesicles depicted by Professor Valentin. In short, the spermatozoa of the Polar Bear were similar in all respects to those of numerous other Mammalia, as may be seen by comparing my drawings, now exhibited to the Society, of the spermatozoa of the following animals, viz. the Polar Bear (*Ursus maritimus*, Linn.), the Stoat (*Mustela Erminea*, Linn.), the Indian Badger (*Arctonyx collaris*, F. Cuv.), the Dromedary (*Camelus Dromedarius*, Linn.), and the Camel (*Camelus Bactrianus*, Auct.). I gave a notice of the spermatozoa of the two last animals in the Proc. of this Society, July 26, 1842, p. 101, and April 11, 1843, p. 50.

#### ENTOMOLOGICAL SOCIETY.

January 6th, 1845.—G. Newport, Esq., President, in the Chair.

Mr. F. Bond exhibited a specimen of *Damophila Trifolii*, together with the portable case formed by its larva, thus proving its affinity to the genus *Porrectaria*.

February 3rd.—G. Newport, Esq., President, in the Chair.

Mr. A. White exhibited specimens of the Chinese *Rhomborhina resplendens* from Mr. Harrington's collection, *Goliathus (Compscephalus) Horsfieldianus* from Abyssinia, and drawings of some species of *Coccinella* brought from Asia Minor by Professor Forbes.

Mr. E. Doubleday exhibited a drawing of an aberrant species of *Diadema* resembling the genus *Acræa* in its colouring, especially *A. Zidora*, &c., and which he proposed to name *Diadema Boisduvulii*.

\* Wagner's Physiology, tr. by Dr. Willis, p. 228; 8vo, Lond. 1844.